



WHEAT FARMING IN LATVIA AN EXTENDED SUMMARY

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1. Introduction

This report is a part of the European research project SUFISA – “Sustainable Finance for Sustainable Agriculture and Fisheries” (2015-2019), which aims to identify practices and policies that support the sustainability of primary producers in a context of complex policy requirements, market imperfections and globalisation. More information can be found on the [SUFISA website](#).

The research in Latvia is carried out by the Baltic Studies Centre.

1.1. Context

Agriculture has been a traditional occupation in Latvia for centuries. There are appropriate agro-environmental conditions (climate, agricultural land, water) and there is a well-developed socio-cultural capital (traditions, knowledge, skills) for farming and food production in Latvia. However, some experts estimate that these local conditions are much less advantageous when compared at European and also global scale, due to less favourable agro-climate, less developed technologies (Hansen and Vanags 2009) as well as discriminating EU agricultural support policies in new member states.

With population of 1,986 million (32 % of whom are rural residents), concentration of population in greater Riga area, sparsely populated rural regions with small towns and the surrounding countryside Latvia is characterised by extensive rural and coastal areas where agriculture, forestry and fisheries are important economic activities. Primary agricultural production contributes 1.6 % to GDP, forestry 1.6 % and fisheries 0.3 % (Ministry of Agriculture 2015). After decreasing tendencies during 1990s and 2000s, the share of agriculture in the national economy has stabilised in terms of employment (8 %, including forestry and fishery), contribution to GDP (~5 %) and share in gross added value (2.1 %). Agricultural output has been ever increasing with some minor decreases in less productive years (Ministry of Agriculture 2014). The major products are milk and cereals, which compose respectively 17.8 % and 34.4 % of the total agricultural output (CSB 2016). These are two sectors that are selected as cases for in-depth study in Latvia.

The dynamics in agri-food sector in 2013–2014 have been characterised by increased crop and animal production, record grain harvest in 2014, falling crop and animal product prices, and increased producer subsidies (Ministry of Agriculture 2015). However, Russian trade sanctions on food products with EU countries have had negative effects on the food sector, in particular the dairy industry. Albeit agricultural productivity is increasing, it remains comparatively low. The existing production volumes meet local consumption, and food self-sufficiency can be reached in major product groups, except for pork and poultry (no data on vegetables and fruit, except for potatoes and legumes) (CSB 2014).

Still, in the global market and trade conditions, a considerable part of primary food stuff is imported, and the general dependence of local consumption on imported food has been even increasing, reaching 34 % in 2007 (Populga and Melece 2009). Šulca and Sproģe (2009) estimate that the share of imported foodstuff in

consumption has increased even from 30 to 68 % in the time period between 2000 and 2007. In the meantime agricultural export is increasing as well, in recent years in a faster pace than import. But export does not exceed import and the foreign trade balance is negative. Milk, cereals and rape seed are major export products.

The low agricultural productivity is mostly associated to the fragmented small-scale farming structure. The average utilised agricultural area per holding was 20.7 ha in 2013 (CSB 2016). Despite of on-going concentration trends in agriculture, there is a considerable prevalence of small farms in agricultural production – up to 90 % farms are considered as small. These farms maintain biological and agricultural diversity, therefore contributing also to food and nutritional diversity (Šūmane et al. 2014). Small farms apply fewer pesticides (CSB 2014a), which means also less polluted food delivered from these farms. It is also noteworthy that in the situation of scarce employment possibilities in rural regions, small farms perform the crucial role providing numerous farming families with income and food.

The agricultural development in Latvia has been considerably influenced by the country's joining the EU in 2004 and the subsequent enforcement of the EU Common Agricultural Policy. The decade following EU accession was marked by massive modernisation processes in agriculture and food sectors with lots of investment in farms and food businesses, introduction of new technologies and raising the competitiveness profile of farms and food companies and improvements in organisation of food chains. The main beneficiaries of these EU agricultural funds for modernisation have been predominantly the medium and large scale farms. These investments in modernisation also had an effect on farm concentration and spread of agri-industrial strategies. The rural development component although present in Latvia's Rural Development Plans and manifested through designated support to LEADER groups, agri-environmental action, farm diversification and more recently to small farms and young farmers have never been the political cornerstone of agricultural and rural development policies. Vice-versa – small scale farming, multifunctional agriculture, niche and alternative productions, short chains and other non-mainstream forms of agriculture have been largely left on the margins of mainstream development or even looked upon as backward residuals from the past with low contribution and growth potential (Mincyte 2011).

Some of the long term development trends exacerbated after joining the EU that epitomise agricultural and rural development in 2004-2016 have been: technological modernisation and growth of large farms; integration of mainstream agricultural production in global trade systems; concentration and foreign takeover of food companies; changes in land use and ownership structures with salient foreign land acquisition and rapid shrinking and in the meantime resilience of the segment of small farms (Tisenkopfs et al. 2015). On the other hand, agricultural policy discourse gradually started to acknowledge another, more balanced vision of agricultural and rural development revaluing the significance of diverse farming systems, the importance of small farms for local social life and food security, social, environmental and food security potential of alternative food initiatives powered by short chains, urban-rural linkages and activism of urban consumers. Diversified, multifunctional, sustainable and resilient agriculture was attracting the interest of agricultural community, policy makers and civil society groups as an opposition to ever dominant

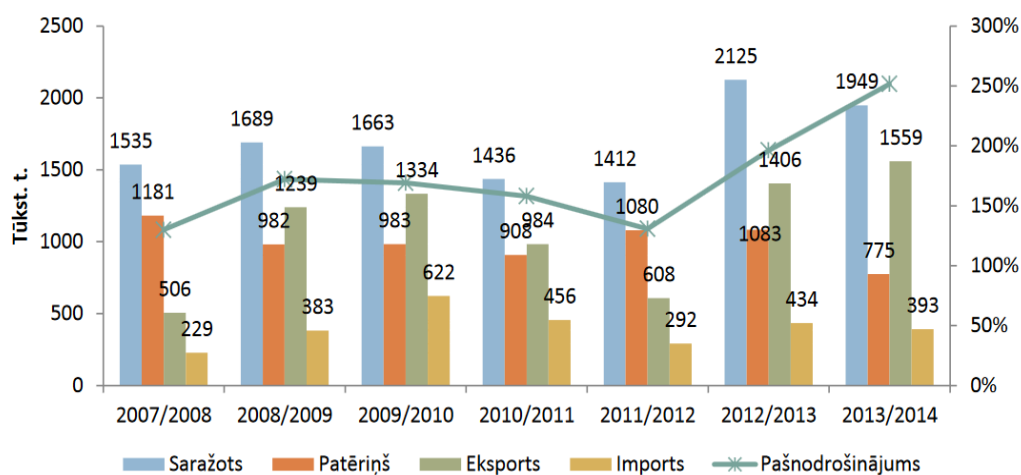
and powerful competitiveness and growth discourse (Grivins and Tisenkopfs 2015). Currently the future of agriculture in Latvia is seen as a two tier process of continuation of modernistic, industrial growth and competitiveness pathway and continuation of a traditional occupation in rural areas which has to fulfil new roles with regard to food security, climate change mitigation and adaptation, ensuring smart growth, managing ecological sustainability and achieving quality of life in rural areas (Straujuma 2015).

1.2. The wheat sector

Crop production, and wheat production in particular, has been another traditional branch of agriculture in Latvia. Nowadays utilised agricultural area covers the second largest area after wooded area (38 % and 45 % respectively in 2010), and in the total cornfield structure cultivation of grain makes up around half of it (LLKC 2012).

In 2014, different crop varieties made up 57 % (655,200 ha) of all cornfield area in Latvia, and there were 23,253 farms involved in grain production (Ministry of Agriculture 2015). Summer and winter wheat populated almost 2/3 of the whole cornfield area of crops – 36.4 % and 25 % respectively. These were followed by summer barley (17.8 %), oats (10.2 %), and rye (4.9 %). Minor areas were used for buckwheat (1.6 %) and triticale (1.6 %), as well as winter barley (0.5 %) and others.

Figure 1. Balance of produced and consumed crop products in Latvia (2008-2014).



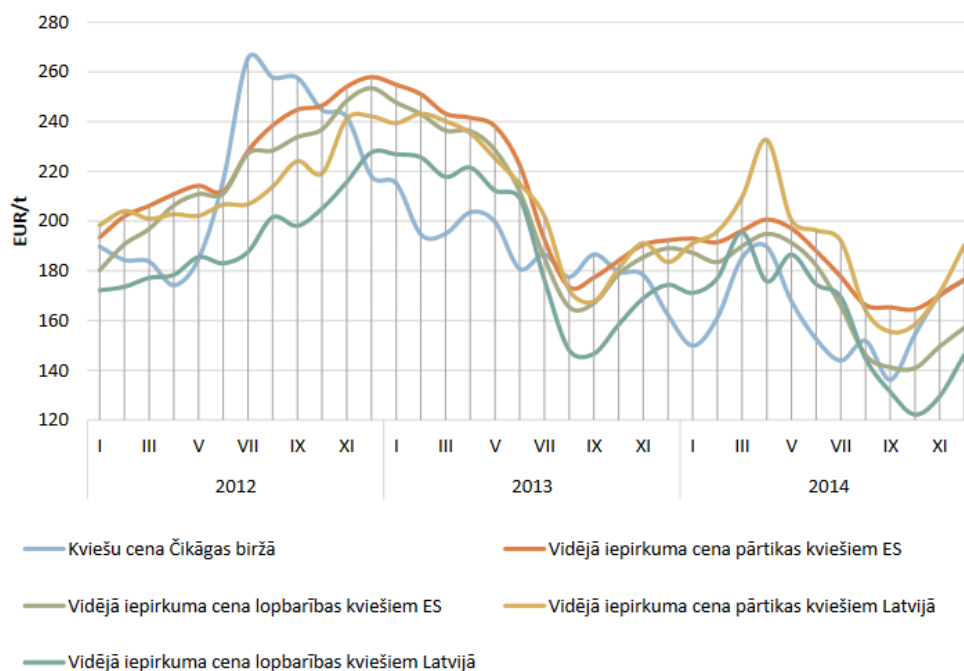
[Produced, Consumption, Export, Import, Self-provision;
Tons, thds.]

Source: Ministry of Agriculture 2015

Wheat is the main agricultural commodity produced in Latvia in terms of number of farms, cultivated area (402.5 thousand hectares or 2/3 of grain sowings), export volume – €304m in 2014 (import was €74m), and total farm income (Ministry of Agriculture 2015). Wheat growing is more developed in medium and large-scale specialised grain farms with intensive methods of cultivation and use of modern agro-technologies. Year 2014 turned out to be a highly successful one for grain producers in Latvia in terms of the gross yield (over 2 million tons; average yield – 39.5 t/ha), with yield of spring crops exceeding that of winter crops due to less

favourable climate conditions for the latter and the following sowing of spring crop cultivars as a replacement for the ones not having managed to winter (Ministry of Agriculture 2015). Winter wheat, which usually takes around 40-45 % of all cornfield area of crops, was among the ones to suffer the most notable losses. At the same time summer wheat was the most productive crop cultivar with the highest average yield. Weather conditions bear a notable impact not only during the growing but also at the harvest time – if crops are harvested after the period of incessant rain they no longer meet the requirements for high-grade food and can only be used as grain forage.

Figure 2. Purchasing price of wheat in EU, Latvia and Chicago stock exchange (2012-2014).



[Top down from the left: Wheat price on the Chicago stock exchange; Average purchasing price of fodder wheat in the EU; Average purchasing price of fodder wheat in Latvia; Average purchasing price of food wheat in the EU; Average purchasing price of food wheat in Latvia]

Source: Ministry of Agriculture 2015

In 2013/2014, there was an 8 % decrease in the crop production volumes, a 28 % decrease in crop consumption, and a 9 % decrease in crop import, while there was an 11 % increase in crop export. Self-supply had increased by 28 %, reaching 252 % (Ministry of Agriculture 2015).

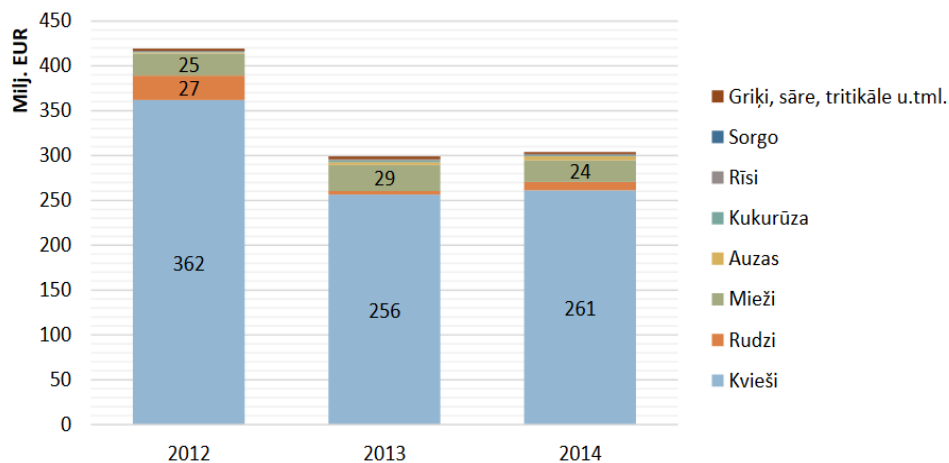
The structure of crop production in Latvia is largely influenced by the **price levels** in the world stock market (LLKC 2012). Crop prices both internationally and in the EU between 2012 and 2014 have been fluctuating notably, yet with mostly decreased price levels – on average minus 30 % for food wheat, food rye, and wheat forage (Ministry of Agriculture 2015). Between 2012 and 2014 the average purchase price

for food wheat in Latvia decreased by 21 % (190.40 EUR/t) and in the EU by 32 % (176.61 EUR/t) (see Figure 2).

Wheat is the main crop in terms of both **import and export** in 2014 making up 62 % and 86 % of all crops respectively (Ministry of Agriculture 2015) (in 2011 the respective shares were 39 % and 75 % (LLKC 2012)). Latvia is a net exporter of grain. Given the high capacity of crop production and the small size of the local market, export is of utmost importance in the grain sector. It has also been noted that export is crucial also given the low discipline of payments among buyers in the local market (Bahšteins 2015b).

Over the recent years export volumes have been increasing also due to the development of several rather strong cooperatives in the field of crop production in Latvia. Wheat sector is presently characterised by high degree of vertical market integration and globalisation of trade (Ministry of Agriculture 2015). Marketing is organised through a national wide cooperative *Latraps* which is the largest farmers' cooperative in Latvia uniting around 1,000 members from all regions. The cooperative has well developed collection, primary processing and marketing infrastructure and provides also advice and finances to farmers. Its turnover in 2013 was €167m, which ranks *Latraps* among the biggest enterprises in Latvia. The cooperative mainly unites specialised professional farmers; however, their services are also available for small producers.

Figure 3. Crop export in Latvia by crop varieties (2012-2014)



[From the bottom: Wheat, Rye, Barley, Oats, Corn, Rice, Sorghum, Buckwheat and others]

Source: Ministry of Agriculture 2015

Wheat is strategic cash crop for farmers' income. Production, marketing and export capacities in the sector are well developed (see Figure 3), which in case of small farmers generate also positive local development effects. However, in the recent years controversial developments have affected the wheat sector: there is an on-going farm concentration process; competition for land aggravates between grain and energy crop producers; agro-ecological management of large farms is increasingly questioned; unstable weather conditions and climate change (warmer

summers, rains, mild winters) require adjusting cultivation methods and reformulating sustainable intensification approaches.

Some of the specific problems in the field of crop production include the following (LLKC 2012): (1) reduced land areas for crop production due to increased production of biomass for power stations (biogas); (2) damage made to crop fields by wild animals (especially wild boars) and birds (especially cranes); (3) expansion of weeds such as silky bent grass and wild oat reducing crop yields; (4) notable share of grey economy in the agricultural sector leading to unfair competition and reduced tax collection.

A shift from selling plain grain to the development of processed innovative export products with high value added can be seen as a potential in future development trends (for example using grain to extract protein, producing bottles from grain starch) (Bahšteins 2015b). Another pressing need pertains to boosting the capacity of pre-processing, storage, and logistics of grain (Bahšteins 2015a) in order to level out the harvesting pace and reception capacity (*Latrops* 2015).

The region of this case study is the whole country of Latvia, which corresponds to a NUTS 2 region (see section 3.1.2). While crop production has been established to be suitable over the whole territory of Latvia, with variations in the chosen crop varieties and soil characteristics, the highest average yield capacity is usually demonstrated by Zemgale planning region (LLKC 2012). This region is the largest region in terms of crop growing in Latvia (31.5 % of all crops, 40 % of total crop yield in 2014), followed by Kurzeme region (23.8 % of total crop yield), Vidzeme region (12.8 %), Latgale region (12.5 %) and the greater Riga region (10.8 %) (Ministry of Agriculture 2015) (see Table 1).

Table 1. Area of crop fields, total yield and average productivity by regions in 2014*

Reģions	Sējumu platība		Kopraža		Ražība, t/ha
	tūkst.ha	%	tūkst.t	%	
Pierīgas reģions	73,5	11,2	250,3	10,8	3,41
Vidzemes reģions	108,3	16,5	332,9	12,8	3,07
Kurzemes reģions	149,6	22,8	496,8	23,8	3,32
Zemgales reģions	206,3	31,5	843,0	40,1	4,09
Latgales reģions	117,5	18,0	304,2	12,5	2,59
Kopā:	655,2	100,0	2227,2	100,0	-

[Region; Crop area; Total yield; Productivity]

* "tūkst.ha", "t/ha" - thousand hectares, "Ražība" – "Productivity"

Source: Ministry of Agriculture 2015

The case study on the wheat sector in Latvia has generally been carried out with the whole territory of the country taken as the point of reference, with the Zemgale planning region at times serving as a specific unit in an embedded case study.

1.3. Data

The report summarises findings from research conducted on the conditions that shape primary producers' actions, strategies, vulnerabilities and performances as

well as the dominant frames that shape farmers' discourses and actions. The analysis has been conducted in several waves and is based on the following sets of data:

- 1) On extensive review of scientific, policy, general and specialised agricultural media texts published over the past seven years and in particular during the last three years. In total, more than 140 texts from various sources were analysed.
- 2) This has been further complemented by more in-depth research on the nature of market imperfections, policy requirements and their implications for specific commodity group. For the exploration of primary producers' conditions and strategies our analysis applies to the whole country. The methods of data collection and analysis to study the dairy sector included:
 - a. integrated and consolidating analysis of insights from the media analysis; review of policy and regulative documents; desk study of scientific publications, overviews and political documents (due to rather small academic community in Latvia there were quite a limited number of relevant scientific studies available); scanning of websites and public documentation of agricultural organisations;
 - b. interviews with a range of stakeholders who represent wheat farmers, agricultural cooperatives, agricultural associations and farmer organisations, policy makers, financial institutions, agricultural advisory services, state controlling and regulative institutions;
 - c. two focus group discussions with wheat farmers and one workshop with the stakeholders representing the wheat sector were conducted.
 - d. a quantitative survey of wheat farmers was conducted. In overall, 142 interviews with wheat farmers were conducted.

2. The case study

The following chapter illustrates conditions shaping the wheat sector and the strategies farmers use to respond to the conditions. The first sub-chapter will present the results of in-depth interviews. The second sub-chapter will discuss the results of focus-group discussions and workshops. The third sub-chapter will present the results of quantitative survey.

2.1. Results of in-depth interviews

2.1.1. Policy and regulatory conditions

According to an assessment of the crop sector made by experts in 2012, critique has been voiced regarding the considerable differences in the EU support levels, leading to distorted competition and inequality between crop producers of different countries in the EU market (LLKC 2012).

While many public support measures are covering all agricultural sectors, there are selected schemes that are more relevant to crop producers. In terms of tax exemptions, a reduced rate of excise duty has been applied for marked diesel fuel used for production of agricultural produce and cultivation of agricultural land (Cabinet of Ministers 2015). While this exemption shall be considered as beneficial for farmers, the positive effect is somewhat hindered by difficulties in meeting the accompanying requirements (allowed to be used only for work on field) and making the necessary practical (Matisone 2015).

Amendments made to the Law on value added tax (Cabinet of Ministers 2013) in June 2016 stipulate the introduction of the special VAT regime (reverse VAT charge mechanism) also in the crop sector pertaining to deliveries of unprocessed crop and technical cultures (including wheat). Since the crop sector has been established to be among the ones with widespread use of fraudulent VAT schemes in Latvia (Fridrihsone 2016), the new provision is expected to serve as a terminated means for reducing the share of hidden economy in the sector

National government has also offered farmers funding for covering insurance policies for productive farm animals and cultivated plants (amounting to €1.5m) with support intensity of 50 %. The aim of this support was to promote engagement of farmers in reducing the risk of agricultural sectors. Yet, as of 2016 this support has been exempted from the list of support measures altogether. Crop producers have also benefited from extraordinary support for the sector (LSM 2016).

Grain farmers' representing organisations, such as cooperatives, cooperative associations, but most notably agricultural associations / NGOs are actively involved in policy dialogue and lobbying. The governing actors like the Ministry of Agriculture are more open towards political interests of biggest economic actors due to their strength of representation and lobbying voice. Regulations are made as to be favourable to bigger farmers even though these farmers might not have been actively involved in policy making.

2.1.2. Market conditions

People spend high share of their income on food and beverages in Latvia – 27.5 % in 2014. Around 14% of this money is used to buy bread and grain products. In the last two decades consumption of wheat bread has dropped almost by half. Due to the size of the market and to the trends of consumption the inner market is not able to consume all the products grown by farmers. The grain sector in recent history has managed to successfully re-orient towards global markets. Internally farmers sell only limited amount of their produce. In overall, this has allowed the sector to organise and develop strong organisational structures that can organise farmers' presence in foreign markets. Grain farmers are much more active in global markets than they are in local markets. The grain sector's global success is at least partly owed to the strong and centralized actors operating in the sector and states willingness to introduce regulations ensuring transparency of the sector. Biggest grain cooperative *Latraps* has introduced many new practices in the sector. The role of cooperatives in the grain sector is really significant. Most of them do not pose political changes to be their main objective and in most cases they do not become involved in the policy

processes at all. However, due to the size of these actors most other stakeholders recognise them. Also, although they do not have direct representation in the policy making process, many of the people managing cooperatives are also in the top positions in farmers' organisations lobbying farmers' rights both in Latvia and in EU. Thus there are strong unofficial yet clearly visible ties. One of the most significant innovations the cooperatives have introduced is to connect local grain farmers to global stock market. This has improved farmers safety as well as has ensured that farmers hold more possibilities to control the price they receive for the product. This connection has illuminated other problems sector faces.

First, one of the recurrently emphasised market conditions for the grain sector in Latvia has to do with the increasingly insufficient capacity of pre-processing, storage, and logistics of grain (Bahšteins 2015a, *Latraps* 2015), which became particularly vivid in the context of the unprecedented high crop yield in 2015. The unresolved situation with pre-processing and storage presently acts as a bottleneck for crop production. During the periods of rapid harvesting, when making use of favourable weather conditions, the limited capacity of existing facilities notably slows down the harvesting process due to compulsory interruptions and long queues at the crop reception centres (BNS 2015). Since investments in these facilities are usually too high for individual farmers, solutions are sought in cooperation. Cooperatives are trying to strategically assess the location and crop volumes of their members thereby aiming to ensure efficient planning of reception capacity in different regions.

Second, the land availability is critically important for the operation of grain producers. There are dynamic processes taking place in both primary and secondary (lease) markets. The factors that determine land market dynamics are: farm concentration and enlargement tendencies that rise demand for land; competition for land between grain and biogas producers; foreign land acquisition; the government policies and interventions in land market; financial institutions crediting policies of land acquisition; behaviours of land owners who are not farmers. The primary land market in Latvia currently sees certain heating tendencies.

Third, in the grain sector, which is doing well in the last years there are signs of farmers' reluctance to learn new things. If a market is rising and business runs well, this might discourage farmers to learn and innovate. Fourth, sector also suffers from lack of qualified employees. The availability of human resources in the grain sector is characterised by demographic ageing of the population, outmigration from the countryside and the country (and general) depopulation tendencies in many rural areas. Depletion and drain of human capital cuts back farm businesses due to shortage of sufficient qualified labour. Farmers deal with this constraint in a different way: some offer competitive salaries, others attract workers with technologically up-to-date working environment and other job opportunities, some others are building long-term and trustful relations with their employees.

Finally, since grain quality adversely affects price and consumer acceptance of finished products it is important for crop producers to undertake measures in boosting the protein content and sedimentation value of cultivars (Liniņa and Ruža 2013). This can be influenced by adequate pre-processing and storage, yet another major challenge in Latvia has to do with ensuring high quality seed material

(Graudi.lv 2016). While presently major efforts are made by crop producers in boosting the total yield volumes, raising the crop quality remains an issue. It has been assessed that only 15 % of seed material presently used in crop production in Latvia has been certified.

2.1.3. Key issues identified in the literature, media and interviews

The analysis of the regulatory and market conditions through literature review, media analysis and stakeholders interviews for the case study on wheat in Latvia provided a list of key issues that are discussed in this section. The key issues are summarized through a SWOT analysis (see Table 2), which permits to identify positive or negative effects that the different issues can have on the wheat sector.

Table 2. SWOT analysis of wheat sector in Latvia.

Strengths	Weaknesses
<ul style="list-style-type: none"> - Presence of strong cooperatives - Largest agricultural sector in Latvia - Highly successful internal organisation - Generates high profits - Availability of technologically sophisticated machinery on farms - Increasing transparency of market arrangements and financial flows in the sector - Market power in hands of producers and their cooperatives - Well-organised supply chain and effective use of global market stock exchange and broker services ensuring stable cash flow - Possibilities for farmers to set a target price - Recognition of weaknesses and strategic actions to overcome them - Strong lobbying capacity - Availability of knowledge and advice through cooperatives and input industries and advisory services - Availability of diverse sources of finance (EU funds, bank credits, corporative financing and special emergency governance support measures) - Increasingly client-oriented civic services (rural support service, State Revenue Service, etc.) - High demand on global markets - Good soil quality for crop production in certain regions 	<ul style="list-style-type: none"> - Harvest and price volatilities - Lack of local grown certified seeds, dependence on certified seed import - Lagging behind capacities of primary processing, pre-processing and storage - High dependency on seasonality of operation and long-term utilisation of productive capacities - Limited logistics and transportation capacities
Opportunities	Threats
<ul style="list-style-type: none"> - Searching for ways to expand cultivated land area 	<ul style="list-style-type: none"> - Potential conflict and competition for land between food and bioenergy production

<ul style="list-style-type: none"> - Development of joint quality standards and procedures to produce products for high value markets - Wider engagement of the sector in advancing professional education in agriculture (support to vocational schools, University of Agriculture) - Strengthening managerial skills and financial literacy of individual farmers - Development of technology research and innovation for improved productivity, work efficiency and competitiveness - Entry of young farmers and newcomers in agriculture 	<ul style="list-style-type: none"> - High dependence of crop yield on climate conditions - Outmigration of labour force from rural regions endangering availability of labour - Rising global competition in crop markets relating to expansion of crop production in Russia - Global speculation with grain as an investment object
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In the following paragraphs we explain the key issues as emerging from the analysis of wheat sector along the SWOT dimensions. This is followed by summary points related to the producers' main conditions and main strategies.

Strengths: As the largest agricultural sector in Latvia wheat production has been highly successful in terms of integration in global markets and generating profits for farmers. It is one of the few agricultural sectors that is well organised; there are effective and professionally managed marketing cooperatives. This enhances farmers' power position in the market chain. There is also knowledge and advice available from various sources. The sector has been successful in attracting financial resources from various sources. The production capacity has been continuously strengthened through investments and technological improvements in farms. The grain sector is often put as a model how a successful agricultural sector in Latvia should be organised.

Weaknesses: The sector is oriented towards bulk production for international markets, therefore exposed to price volatility and fluctuations. The sector is also highly dependent on weather conditions and seasonality of operation (very short and compressed sowing and harvesting periods, which make much of production capacity unutilised in the rest of the year). The logistics and primary processing capacities are still lagging behind the production capacity. As bulk producers of wheat for fodder and industrial buyers farmers are relatively less responsive to new consumer demands in food.

Opportunities: Currently wheat farmers and their cooperatives are pursuing improvements in logistics and strengthening the pre-processing capacities on cooperative basis. Farmers are also searching for ways to expand production and are enthusiastic for acquisition of new arable land. The availability though is strictly limited. Development of joint quality standards and procedures to produce wheat for high value markets is an opportunity recently being considered by the leading cooperatives and grain farmers' associations. This endeavour would require mobilisation of new knowledge and joint action for innovation. Strengthening the managerial skills and financial management skills of farmers is a continuous concern and effort of the sectors' leading organisations. Recently the largest cooperative *Latraps* has acquired a bankrupt dairy farmers' cooperative and seeks to develop a

new kind of cooperative in the dairy sector building on the experience of grain farmers. This offers an opportunity for cross-sectoral cooperation between grain and milk producers and transfer of cooperation knowledge and skills with further invigorating effects on the dairy sector in crisis. Grain farmers both individually and collectively support vocational education in agriculture by organising field training for students and helping agricultural colleges with buying demonstration machinery. Farm succession and influx of young farmers and employees are also seen as opportunities by wheat farmers.

Threats: The crop yield is highly dependent on weather and climate conditions. Farmers are experiencing tough competition for arable land between food and bioenergy producers. Shifts in global demand might cause significant difficulties for the sector. Rising global competition in crop markets related to expansion of crop production in Russia and global speculation with grain are external threats out of farmers' control. There are financial risks involved as well: substantial financial investment in farms pays back under conditions of market growth; however, it is shattered at times of price volatility, market shocks, or unfavourable seasonal weather conditions. Many farmers who have chosen salient financialisation strategy are highly exposed to financial risks. The wheat growing is largely a monoculture with associated environmental sustainability threats. Growth and consolidation of larger farms above 500 hectares pose also social and rural development challenges. The grain sector has reached certain maturity in economic, technological, and organisational aspects. This poses a relative risk of losing incentives to learn, improve, and change.

Main conditions: Regarding production factor conditions for the grain sector, the key sub-conditions are land availability, with additional relevance of labour and scale/timing sub-condition. The responses are focused on intensification/upscaling and technological innovation. In market demand conditions the central sub-condition is global competition. With regard to human resources conditions the grain sector is highly intensive in terms of capital investment and production technologies is also largely dependent on the employment of high skilled workers. Therefore one of the main socio-demographic factors for long-term viability of wheat production has also to do with demographic processes in the countryside and the availability of educated and skilled workers.

Main strategies: Farmers mainly pursue agro-industrial competitiveness and intensification strategies and are quite successful in these. Farmers' finance and risk management is associated in particular with neo-institutional frame as conducive to financialisation path, commercial borrowing and farm investment, to a lesser degree – subsidies seeking. The farmers' ability and skills to manage financial resources and deal with risks is of key importance for farm's long-term development. Navigating in finance and risk markets is helped by prudence and farmer wisdom – a combination of intuition, intelligence, and precariousness. Personal qualities of a farmer, his/her values and outlooks on agriculture are an inherent component of profound farming knowledge and skills. Under the same macro-economic conditions there are farmers who go bankrupt and who innovate and expand production. Striking differences in

performance are often determined by farmers' wisdom, knowledge, long-term planning, and financial planning skills.

2.2. Results of focus groups

This part of the report is structured in six sub-sections discussing following issues: how grain farming is presented by the farmers; the political arrangements shaping farmers' strategies; relational arrangements enabling farmers' opportunities; support instruments available to farmers; and resilience of the sector.

2.2.1. Grain farming

Grain farming is considered to be the most successful agricultural sector in Latvia – with few successfully functioning cooperatives, strong farmers' organisations and several huge enterprises operating in the sector it has shown that it has the potential to grow as well as to protect farmers' interests. The focus groups demonstrated that there are different ways of organising farming that sets apart groups of farmers. To start with – there is a group of farmers who are operating on noteworthy plots of land and who have been investing in their farms hoping to increase their profits and efficiency. This is the group of farmers with diverse beliefs yet involved in communication, participating in the life of farmers' community and being relatively open to innovations (or at least willing to learn). Among them, there were both family farms as well as larger farms organised as enterprises. The second group is farmers who are significantly less involved in farming. Most of them decided to go into farming in the nineties yet have never made the jump to the next level – to more competent and more involved farming. This group of farmers are slowly leaving the sector.

2.2.2. Policy and management

Joining the EU was one of the turning points for the grain sector. For farmers this meant new regulations and markets. After joining the EU, farmers suddenly had constant access to finances and subsidies. Direct payments and access to funds have facilitated a rise in agricultural land prices (mostly land prices still continue to rise). This can also be explained by the other processes EU has caused – e.g., the open markets have allowed foreign investors to invest in land deals. The willingness of foreign investors to buy rural land and insufficient state regulation of the issue has caused the rise of the prices. The price in many cases is just too expensive (too risky) for farmers to continue investing in land. These changes have influenced land rent deals as well. After joining the EU, farmers suddenly had access to financial resources which allowed them to invest in machinery and land. According to some farmers, this support came much too late because much of the agricultural land was already distributed but the land that was still available suddenly was just much more expensive after Latvia joined the EU. Availability of EU funds also changed the way how the banking sector perceived farmers.

Although farmers don't feel that they can influence policy making at the EU level they feel that the sector's interests could be protected better at the national level. However, representatives of the sector (at least farmers) do not have one single

vision of what would be its political interests. In general, farmers do not think that they should be the ones dealing with the regulatory aspects of the sector and are happy to delegate their interests to farmers' organisations (which consequently are criticised for the slow pace of change). There were several discussions during the focus groups regarding the land availability, use of agro-chemistry, availability of subsidies, protection of national agricultural interests, investments in agricultural science – questions that would require stronger representation of farmers' interests at the national level. It was clear from these discussions that so far national government has not been doing a good job in protecting farmers' interests.

The lower level governance is conducted by local municipalities in Latvia. Many of the farmers have outgrown local municipalities and their fields are located in territories representing multiple administrative territories. Since these farmers do not have a clear connection to one municipality, they might decide to distance themselves from this level of governance. Despite this municipality could be the first natural partner for farmers. However, only a few farmers are trying to maintain relations with municipalities. Those who are trying to ensure that there are relations between them and municipalities are doing this to ensure that they are informed about local events.

2.2.3. Grain supply chain

The amount and the quality of grain produced have risen significantly during the last decades. In the same period, the principles used to set grain prices have become more transparent, and farmers have managed to get into a position where their voice is louder and better heard. However, most of these positive changes have been observed downstream the supply chain. The processes upstream the supply chain are not perceived as enthusiastically – lack of transparency in pricing, low quality of services, weak competition are just some of the points of critique raised to reflect upon products and services sold to farmers.

Another important turning point that has been mentioned both in focus group discussions and in the stakeholder workshop is the emergence of grain farmers' cooperatives. Cooperatives have introduced several novelties that have allowed farmers to gain more control over the bargaining process. The major achievement of the cooperatives was introducing transparent pricing. Cooperation as a mechanism has also allowed farmers to benefit more from the collective bargaining. The current position farmers are in is much better than it used to be in the 90s – then prices were unpredictable and often processors imposed on farmers additional costs. Yet cooperatives offer clear set of pricing strategies farmers can choose from. Three strategies raised in discussions are i) daily prices (farmers follow the price fluctuations in stock market and set the deal whenever they are satisfied with offer); ii) bonus system (farmers agree with cooperative on the price they are willing to sell their grain for and receive bonuses if cooperative manages to sell it for a higher price); iii) futures (an agreement to sell for a specific price which can be bound to MATIF, specific formulas or to final price).

However, there are also other functions cooperatives have taken. Cooperatives have hired agronomists, have taken the role of mediator in negotiating the relations between banking sector and farmers, are investing in infrastructure, etc.

With many of the supply chain's down-stream problems being resolved many new up-stream problems have been manifesting themselves. These issues are seen as something to be resolved individually by each farmer. There have been multiple attempts to introduce common response to the challenges; however, these interventions have not resolved the problematic relations farmers have with upstream stakeholders. The principal problems that farmers identified during the discussions are unfounded price fluctuations, low quality services, lack of choice, etc. When discussing the services provided to farmers and products farmers have to buy, farmers and other stakeholders tend to agree that they have only limited possibilities to choose and thus they are forced to pay high prices. Meanwhile, the fluctuation of the prices also served as proof that prices are not representing the real production price. The overall agreement among the farmers and experts was that these fluctuations represent the availability of EU funds rather than the real price of production. Farmers are even more sceptical when it comes to maintaining the equipment. Most of the critique has been directed towards official mechanics whose services farmers are obliged to use if they have used credit to buy the machinery (which is most likely the case). The warranty repair can be long and often farmers are disappointed in the outcome.

2.2.4. Supporting organisations

Multiple issues were raised when farmers were discussing supporting organisations surrounding the sector. Knowledge availability is first issue that was raised. There are several fields of knowledge where farmers could use external help – access to finance and financial planning, soil quality and use of pesticides, properties of plant varieties and ownership of seeds, etc. Latvian Rural Advisory and Training Centre (LRATC) is one of the actors providing information to farmers. However, from the discussions in focus groups, it does not seem that the participants would be using the services of LRATC. LRATC is more involved in working with the smaller and less integrated farmers. The farmers participating in the groups relied on their knowledge, on the knowledge provided by neighbours and on the information shared by cooperatives. Experts participating in workshops felt sceptical about the knowledge level of the farmers. Furthermore, on many occasions, they expressed pessimism about the overall availability of the knowledge needed for farming in Latvia.

Another issue closely related to the knowledge availability is labour availability. During the groups farmers claimed that in rural territories there is a lack of motivated and educated people willing to work on the farm. Most of the rural population has left to cities or has left the country entirely. In most cases this means that the farmers have been relying on the family – the farm is run mainly on family labour. From discussions raised in focus groups, it seems that in such family farms farmers have clearly divided the responsibilities and everybody knows what he/she is responsible for. Also, it seems a common approach that at least one of the farmers' children tends to choose a profession related to the needs of the farm. This, of course, is also strongly related to farm succession.

However, this cannot be the response for all farmers – especially those who have outgrown family farm size. These actors have been hiring experts and ensuring that these employees have the motivation and loyalty to stick with the farmer. Farmers

claim that the lack of employees is partly related to a rather poorly functioning educational system.

2.2.5. Resilience

Resilience is farmers' ability to adapt, recover and overcome shocks. As such resilience is both individual strategies as well as a communal adaptation. Some of the key challenges that have been raised by participants are: farm succession, shocks caused by climate change, challenges posed by relations with rural communities, and market posed risks.

Succession is among the central issues farmers are concerned with. Many of them have already involved their children in daily tasks around the farm, and in many cases children have become an important part of the strategy how farms solve the challenges the sector faces. Despite this, the uncertainty of successions remains – children are moving to the cities and making careers in different sectors. For farmers running family farms it is much more painful to witness that their work will not be continued by their family members. It seems that much of the motivation guiding their activities are coming from the sense they have somebody to pass on their work and thus lack of the heir can be the reason why farmers reduce their involvement in the farm. In comparison some of the largest farmers interviewed during the first waves of the SUFISA fieldwork were using a much more business-oriented perspective to interpret their involvement in agriculture.

Climate change is another concern that has mainly been raised by the stakeholders participating in the workshop. However, on multiple occasions during the focus groups farmers also have been keen to discuss strategies that are meant to solve issues related to climate change (although, climate change as such has been named only occasionally). During the focus group discussions, farmers were discussing the future of farming in the light of climate change. For example, during both discussions, farmers on several occasions raised questions regarding farmers' possibilities to fight new plant diseases and pests. These conversations mainly were criticising the restrictions EU has posed on the use of specific pesticides, herbicides and fungicides. The general claim farmers were making was that the climate change is bringing to Latvia new challenges farmers will have to deal with. Obvious and quick solutions for farmers are to use stronger pesticides allowing them to protect themselves from emerging threats. However, farmers were not discussing the sustainability of the solutions they are offering.

However, the resilience of grain farming is not only about being able to adapt to the environment and climate change. It is also about being able to create constructive dialogue with communities. All through the focus groups and the workshop, participants were raising questions regarding the role of non-farming part of the rural population and their ability to set the rules for farmers. In the second focus group very early on participants came to the conclusion that farmers are blamed for many of the environmental problems Latvia environmentally faces today. For farmers, this of course was a mistake reflecting poor knowledge people have about farming. In both focus group discussions, farmers raised the same argument that processors have a much more pronounced effect on the environment. According to farmers, what happens is that people do not understand the practices farmers follow

and consequently start to blame them for the environmental degradation caused by the previous political regime. However, what everybody could agree on is that farmers are misrepresented in public media as a lazy group demanding public support yet spending it on unjustifiably expensive private cars and not caring about rural society or the environment. Such interpretation of farmers can be damaging to farmers, especially because demographic characteristics of rural communities have been changing. Many of the countryside houses are now inhabited by well-educated families from cities who do not see the countryside as a source of their income but rather as a place to relax and enjoy the rural nostalgia. These people are prepared to get involved in controlling institutions whenever they feel that their neighbours – farmers are violating any rules.

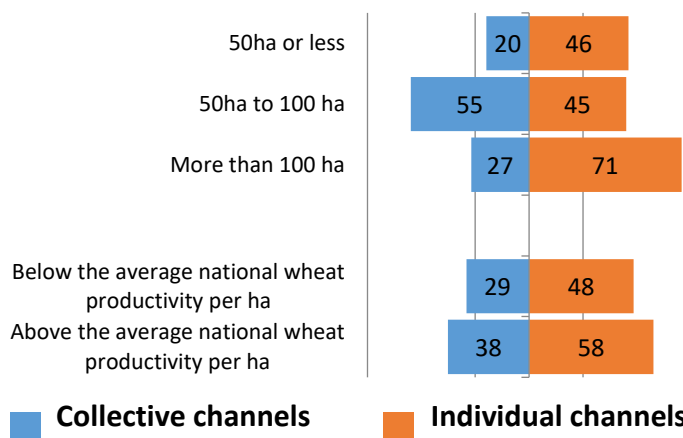
2.3. Quantitative survey

During the SUFISA project, a quantitative survey of wheat farmers in Latvia was conducted. Due to the structure of the wheat sector, it was decided that for this survey quota sample should be used. Quotas were seen as a way to ensure that there is an analysable share of farms of various sizes in the final data set. Also, based on the research experience, BSC researchers early on realised that low response rate could be the main problem that could hamper successful data collection. To solve this challenge BSC hired local advisory service to collect the data for the survey.

2.3.1. Sales channels

There are clear differences regarding involvement in the market between the farms of different sizes. Smallest farms and least intensified farms tend to sell a smaller share of yields. This is especially pronounced in cases of farms covering less than

Figure 4. The share of wheat sold through collective and individual channels



50ha. In these farms, farmers choose to sell less than 50% of annual yield. However, if the size of the farm is considered, even for the larger farms the share of a harvest that is sold never reaches 90% (and this is true even in case of farms larger than 100ha). This is

not, however, true if the efficiency of farms is taken into account. The data illustrates a clear trend that the more efficient the wheat farm is, the higher share of its harvest it will sell. The farms with average yield below 3t per ha on average sell around half of their harvest. Farms with productivity between 3t and 4.5t per ha on average sell a little bit more than 3/4 of harvest. And the farms exceeding 4.5t per ha on average sell more than 86% of their harvest. In case of the wheat sector three conclusions

from previous stages of the research could help explain the variation in share of harvest sold: 1) smaller farms tend to use grain as a feed for farm animals; 2) in smaller farms farmers tend to use their own seeds rather than buy them; 3) smaller farms invest less in agro-chemicals, machinery and knowledge that could help to maintain certain level of quality of yields. These are arguments that could be associated with the intensification of the farm as well. It could be concluded that lower level of involvement in the market is partly related to an inability of many farmers to meet market standards and partly related to a variation in farm management strategies.

Still, what is even more important - already in this early stage of analysis data indicates that there is an important distinction between the size and efficiency of the farm. Growing and intensifying means two very different things between grain farms. Most likely this distinction can be attributed to the comparative cheapness of agriculture land in Latvia that allows farmers to increase their profitability by just increasing the territory they are farming on.

In the grain sector - larger farms are more likely to be members of a cooperative than small farms. Thus, although the large grain farms are selling less to cooperatives, they are still supporting the organisation with their involvement (almost 60% of farms with more than 100ha indicated that they are members of a cooperative. Furthermore, large grain farmers were more likely to be involved in other farmers organisations).

2.3.2. Characteristics of sales agreements

In the grain sector, two main contract lengths dominate - contracts are either covering just the period of a particular transaction, or they are covering the period of 7 to 12 month. These two choices most likely represent two most typical forms of contractual relations dominating in the sector: either farmer follows the price fluctuation in the stock exchange and sell the product when the price seems right to them (which would mean that contract is bounding to a particular moment of a transaction) or farmer signings the futures contract. Deals for futures contracts are usually made in spring when farmers are in need of finances to invest. Thus a typical bounding period for these contracts is somewhere around half a year. The previous stages of research revealed that following the prices in stock exchange can be a way for a farmer to get a better price. However, since most of the farmers do not have free resources, they have to use futures contracts. The main benefit of these contracts is the access to credit lines it provides.

The data illustrates that the use of futures contracts is much more common among the largest and more intensive farms. The form is used by 16% of farmers with yields below the national average and by the 16% of the farmers with farms smaller than 50ha. In comparison, the contractual form is used by 36% of farmers with farms larger than 100ha and by 39% of farmers with yields above the national average. The situation is opposite for one-time contracts - these are used by almost 3/4 of farmers

with farms smaller than 50ha and farms with low efficiency. Only half of the large and efficient farms use this option.

Partly these differences can be explained by the fact that more efficient and large farms are in a greater need for finances during the active season - these farms have to pay loans for the machinery they have bought and are investing in agro-chemistry. However, this can also be explained by farms ability to predict its yields. Futures contracts demand to be able to predict the size of harvest and the quality of the grain. And this is something small farmers might have difficulties with. It is also important to stress here that the channels used by very small farmers differ from those used by the larger farms - local markets most likely lack an opportunity to make long-term commitments.

In the grain sector, almost three-quarters of the contracts presuppose premiums for delivering higher quality produce. This is especially common (true for 81%) if collective sells channels are used. In this regard it has to be indicated that in the grain sector contracts farmers have with cooperatives are much more elaborated (if compared to the dairy sector – the other case study conducted in Latvia) - they are more involved to help the farmer and to protect his/her interests. However, on the other hand, the same contracts are also clearer about the fines to be paid if farmer violates the agreement. Other central aspects that are described in contracts are - receiving services like collection, storage, transport, handling (62% of the grain farmers) and penalties if the farmer fails to deliver the agreed quantities (40% of the grain farmers).

In overall, contracts of larger and more efficient wheat farmers seem to be much more complex than contracts with smaller farms. Also, it seems that larger and more efficient farms are receiving more from potential buyers. To start with, it is much more common than large and efficient farmers will have penalties if they fail to deliver the agreed quantities (60% of large farmers and 51% of the most efficient farmers). This is most likely to do with the length of contracts - as has been mentioned this group of farmers tend to have longer contracts. Again, most likely this is related to longer contracts this group has, but larger and more efficient farmers tend to receive price premiums for delivering higher quality products more often (this is true for almost 83% of largest farmers and 79% of the most efficient farmers). The two characteristics also allow farmers to 'receive services like a collection, storage, transport, handling, etc.' (mentioned by 81% of largest farmers and almost 73% most efficient farmers); 'receive managerial support or technical assistance' (in overall being introduced in contracts less often than the previously mentioned aspects, this notion is still more widespread among the two mentioned groups than among other farmers - this answer is mentioned by around 1/4 of largest and most efficient farmers); and finally, almost 1/3 of the most prominent farmers indicate that they 'receive credit assistance' from the buyer.

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